

October 17, 2013

Carter Terenzini, Town Administrator  
6 Holland Street  
PO Box 139  
Moultonborough, NH 03254

Re: Summary Report  
Water Quality Monitoring  
Old Landfill Site – NH Route 109  
Moultonborough NH

Dear Mr. Terenzini:

This report summarizes the groundwater and surface water sampling program completed at the Old Landfill site immediately north of the entrance to the Moultonborough Solid Waste Transfer and Recycling Facility located off Holland Street (NH Route 109). Refer to Figure 1 for location of the Old Landfill site. The program included:

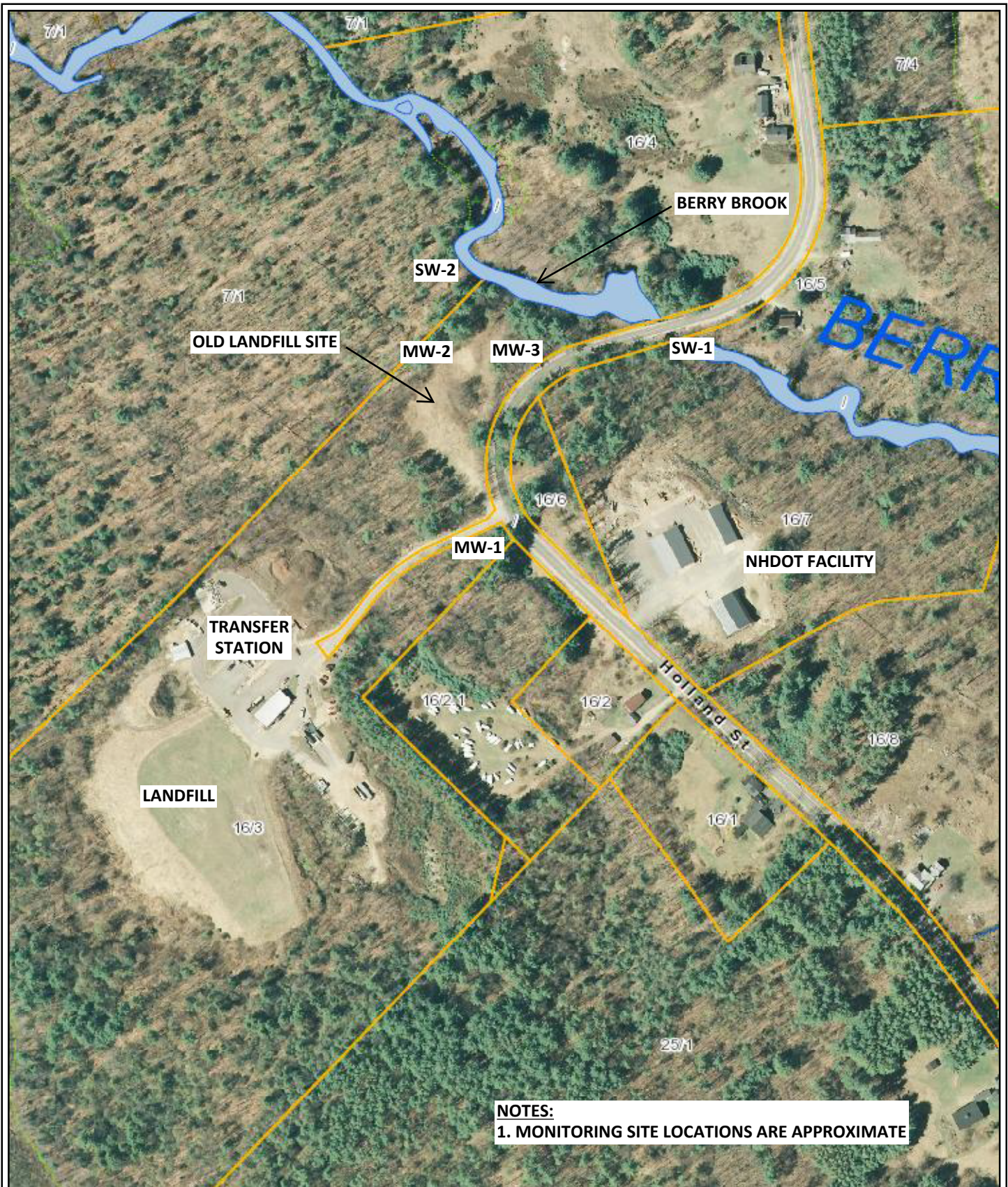
- Installation of three monitoring wells at the Old Landfill site. The monitoring wells were installed by Eastern Analytical Inc., Concord, NH with oversight and well logs provided by Emery and Garrett Groundwater Inc., Meredith, NH. For a complete report on the well installations, refer to Appendix A.
- Sampling and water quality testing at the three monitoring well locations identified as MW-1, MW-2 and MW-3. MW-1 is upgradient to MW-2 and MW-3. Refer to the laboratory test reports in Appendix B for identification of the testing methodology of the respective constituents. Refer to Figure 1 for monitoring well locations.
- Sampling and water quality testing at two surface water sites located on Berry Brook and identified as SW-1 and SW-2. SW-1 is upgradient to SW-2. Refer to the laboratory test reports in Appendix B for identification of the testing methodology of the respective constituents. Refer to Figure 1 for sampling locations.

**Limitations:**

This report is subject to the following limitations:

- Services were performed in accordance with generally accepted practices and protocol for the type of work performed.
- All sampling and testing was completed independently by Eastern Analytical Inc., Concord, NH. Observations, evaluations, assessments and conclusions are based on data submitted by Eastern Analytical Inc. No independent evaluation of the reliability of this data has been completed.
- Observations, evaluations, assessments and conclusions are based on professional judgment and are not scientific certainties.
- Observations, evaluations, assessments and conclusions are made solely on the basis of conditions described in the report and not on scientific tasks or procedures beyond the scope of work as described herein.





**FIGURE 1**  
**LOCATION PLAN**

**OLD LANDFILL MONITORING PROGRAM**  
**MOULTONBOROUGH NH**



SCALE: 1" = 300'

**KV Partners**



- Water level readings are recorded at the times and under the conditions stated in this report. Fluctuations in groundwater levels will occur due to variations in rainfall and other factors different from those prevailing at the time the measurements were taken.
- Chemical analyses have been performed for specific parameters as described in this report. Additional chemical constituents not analyzed may be present in soil and/or groundwater at the site.
- This report has been prepared for the exclusive use of the Town of Moultonborough, New Hampshire.

### **Summary of Results:**

Where applicable, water quality data for each sample location is benchmarked against maximum contaminant levels as specified in the following water quality standards.

- Ambient Groundwater Quality Standards (AGQS) as specified in NHDES regulation Env-Or 603.03.
- Primary Drinking Water Regulations (PDWR) as specified in NHDES regulation Env-Ws 314 and Env-Ws 315.
- Secondary Drinking Water Regulations (SDWR) as specified in NHDES regulation Env-Ws 316.

The results of the testing program are summarized in Table 1; parameters that exceed the standards and regulations noted above are highlighted in red. As shown, chloride, manganese (Mn) and iron (Fe) in MW-3 exceeds the SDWR maximum contaminant levels (MCLs). In addition, the AGQS standard for Mn in MW-2 is exceeded. Refer to Appendix B for a complete listing of test results at each of the monitoring locations.

Fe and Mn are metals that occur naturally in soils, rocks and minerals. In the aquifer, groundwater comes in contact with these solid materials dissolving them and releasing their constituents into the water. At concentrations approaching 0.3 mg/L Fe and 0.05 mg/L Mn, the water's usefulness may become seriously impacted; for example there may be a metallic taste to the water and staining of plumbing fixtures may become common. At these concentrations, however, the health risk of dissolved Fe and Mn in drinking water is insignificant.

Typical background levels of chloride for pristine locations in New Hampshire are less than 30 mg/L. Substantially higher levels of sodium and chloride tend to imply contamination by human activities, including road salt storage, use of road salt, discharges from water softeners, human or animal waste disposal, leachate from landfills, and other activities. It is important to note that elevated chloride levels were only detected in MW-3, the monitoring well nearest to Holland Street and potentially downgradient from the NHDOT maintenance facility. EPA has identified 250 mg/L as a concentration at which chloride can be expected to cause a salty taste in drinking water. The secondary level of 250 mg/L is based on aesthetic concerns, and is only advisory in the Federal Safe Drinking Water program.

There is insufficient data to determine if the parameters noted above have historically exceeded the standards, are seasonal, are background to the natural environment or are related to the waste material buried on site. In any case, it is our opinion that the test results show no significant levels of contamination at the Old Landfill site for the parameters tested. Therefore, since the Town is not under any regulatory requirement to continue testing, we recommend that no additional testing be completed at the Old Landfill site at this time.

Please do not hesitate to contact me if you have any questions or require additional information.

Sincerely,

**KVPartners**

A handwritten signature in black ink, appearing to read "RHKorber", is displayed on a light yellow rectangular background.

Raymond H. Korber, P.E.  
Principal Engineer

**Table 1**  
**Summary of Water Quality Test Results**  
**Old Landfill Site, Moultonborough NH**

Parameter	Units	Standard			Sampling Location & Results				
		AGQS	PDWR	SDWR	MW-1	MW-2	MW-3	SW-1	SW-2
Static Water Level	Ft				6.59	4.95	9.09		
pH	SU			6.5-8.5	6.6	6.7	6.6	6.5	6.5
Specific Conductance	uS				82	890	1400	75	79
Chloride	mg/l			250	8	100	340	11	12
Nitrate	mg/l	10	10		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
TKN	mg/l				< 0.5	3.8	0.8	0.8	< 0.5
Arsenic (As)	mg/l	0.01	0.01		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Barium (Ba)	mg/l	2	2		0.003	0.12	0.1	0.006	0.007
Cadmium (Cd)	mg/l	0.005	0.005		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Chromium (Cr)	mg/l	0.1	0.1		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Iron (Fe)	mg/l			0.3	< 0.05	< 0.05	0.35	0.27	0.28
Lead (Pb)	mg/l	0.015	0.015		< 0.001	< 0.001	< 0.001	0.002	0.011
Manganese (Mn)	mg/l	0.84		0.05	0.1	3.3	0.29	0.034	0.029
Mercury (Hg)	mg/l	0.002	0.002		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Selenium (Se)	mg/l	0.05	0.05		< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Silver (Ag)	mg/l	0.1		0.1	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Organic Compounds (VOCs & OCs)	ug/l	Varies	Varies		BDL	BDL	BDL	BDL	BDL
1,4 Dioxane	ug/l	3			< 0.25	< 0.25	< 0.25	< 0.25	< 0.25

**Notes:**

1. BDL = Below Detection Limits

**APPENDIX A**  
**WELL INSTALLATION REPORT**

# ***Emery & Garrett Groundwater Investigations, LLC***

***56 Main Street • P.O. Box 1578  
Meredith, New Hampshire 03253***

***(603) 279-4425***

***www.eggi.com***

***Fax (603) 279-8717***

October 1, 2013

Mr. Ray Korber, P.E.  
KV Partners Consulting Engineers  
PO Box 7721  
Gilford, NH 03249

## **Subject: Monitoring Well Installation at the Moultonborough Landfill**

Dear Mr. Korber,

Emery & Garrett Groundwater Investigations, LLC (EGGI) supervised the installation of three monitoring wells at the "Pre-1981 Landfill" located at 253 Holland Street, Moultonborough, New Hampshire. The monitoring well sites were staked by an EGGI geologist in consultation with you during a site visit conducted on June 12, 2013. Monitoring Well MW-1 was staked in a location thought to be up-gradient of the former landfill. Monitoring Wells MW-2 and MW-3 were both located down gradient at the perimeter of the former landfill.

EGGI contacted Dig Safe prior to drilling to ensure no underground utilities were present in the vicinity of the proposed wells. Eastern Analytical, Inc. (EAI) was contracted by others to perform the boring and well installation work. An EGGI geologist was onsite to log each borehole and supervise the construction of each monitoring well (see attached as-built and geologic logs). EAI mobilized a Geoprobe Systems Model 7822D drill rig on September 10, 2013. This type of drill rig has both direct push and auger capabilities.

Each well was drilled by first advancing a soil sampling tool to collect continuous formation samples. After a formation sample was collected at each well site, 4.25-inch ID hollow stem augers were advanced to enlarge the boring and facilitate well construction. Each two-inch-diameter well was constructed using 10 feet of flush joint PVC screen with 0.01-inch slot openings and two-inch-diameter flush joint PVC riser. The screens were gravel packed using #1 washed gravel. A bentonite seal was installed above the gravel pack, and each well was finished with a steel protective riser anchored in cement.

Several attempts were made to advance a boring to sufficient depth to construct the upgradient Monitoring Well MW-1. The first three boring attempts encountered refusal at depths between 8 and 12 feet. The final boring advanced to a depth of 19 feet. Sandy ablation till was present below a thin soil layer to a depth of 14.5 feet. Dense, silty basal till was encountered below the ablation till to the final depth.

Three attempts were made to advance a deep boring at the MW-2 location. The first two attempts met refusal between 1 and 9 feet below ground. The Monitoring Well was constructed

in a boring that reached a depth of 16.1 feet below ground; however, the augers could only be advanced to a final depth of 15 feet. Soft, silty fill extended to a depth of four feet below ground surface under a shallow soil layer. The augers recovered a small quantity of trash (glass, metal, and plastic fiber) from the fill layer. Ablation till extended from 4 to 14 feet below ground surface and dense basal till was present from 14 to 16.1 feet below ground.

A single boring was advanced to a depth of 16 feet at the MW-3 site. Black to rusty-colored fill beneath a thin soil layer extended to a depth approximately 8 feet below ground surface. The fill at this well location contains abundant small glass and rusty metal fragments, and what appears to be ash. Ablation till was intercepted beneath the fill to a depth of 16 feet below ground.

No odors indicative of contamination were detected with any sample core. The material identified by EGGI as ablation till is fairly sandy and, therefore, relatively permeable and capable of transmitting groundwater flow in much greater volumes than the underlying dense basal till. EGGI believes each Monitoring Well should have sufficient yield to obtain representative groundwater quality samples.

We hope you find this information responsive to your needs. If you have any questions, please do not hesitate to contact us.

Best regards,

A handwritten signature in blue ink, consisting of stylized initials 'EM' followed by a long horizontal stroke.

Hydrogeologist



# HYDROGEOLOGIC LOG FOR MONITORING WELL MW-1

## Moultonborough Landfill Moultonborough, New Hampshire

**Project:** Moultonborough Landfill

**Total Depth of Boring:** 19' **Total Depth of Well:** 19'

**Driller:** Eastern Analytical, Inc.

**Depth to Till/Refusal:** 1'/19'

**Geologist:** Jeffrey Marts

**Static Water Level (Below TOC):** 7.23'

**Date Drilled:** September 10, 2013

**Screen Interval (Slot Size):** 9' - 19' (0.010" slotted)

**Drill Method:** Geoprobe / 4.25" ID Augers

DEPTH (feet)	WELL CONSTRUCTION	DRILL LOG	SAMPLE DESCRIPTION
+2	Locking, protective monument		
0			0' - 1': Dark brown organic soil.
1	Cement		1' - 12': ABLATION TILL - Tan to gray, very fine to coarse sand, some silt, little gravel, trace cobbles.
2			
3	2-inch PVC casing		
4			
5	Static Water Level		
6			
7	6.5'-8.5': Bentonite		
8			
9			
10	#1 Sandpack		
11			
12			12' - 14.5' - Tan coarse sand, little silt, trace gravel.
13	9' - 19': 2-inch PVC		
14	0.010" slotted screen		
15			14.5' - 19': BASAL TILL - Very dense, grayish tan, silt and sand, some gravel, trace cobbles.
16			
17			
18			
19			19': Refusal
20			

### GEOLOGIC LOG LEGEND



SOIL - Dark brown organic soil.



ABLATION TILL - Poor to moderately sorted, moderately dense, sandy till.



BASAL TILL - Poorly, very dense, silty to sandy till.

#### PERCENTAGES USED IN SAMPLE DESCRIPTIONS

Trace = 0-10% Little = 10-20%  
Some = 20-35% And = 35-50%

# HYDROGEOLOGIC LOG FOR MONITORING WELL MW-2

## Moultonborough Landfill Moultonborough, New Hampshire

**Project:** Moultonborough Landfill

**Total Depth of Boring:** 16.1' **Total Depth of Well:** 15'

**Driller:** Eastern Analytical, Inc.

**Depth to Till/Refusal:** 4'/16.1'

**Geologist:** Jeffrey Marts

**Static Water Level (Below TOC):** 5.72'





**Date Drilled:** September 10, 2013

**Screen Interval (Slot Size):** 5' - 15' (0.010" slotted)

**Drill Method:** Geoprobe / 4.25" ID Augers

DEPTH (feet)	WELL CONSTRUCTION	DRILL LOG	SAMPLE DESCRIPTION
+2	Locking, protective monument		
0			0' - 1': Dark brown organic soil.
1	Cement		1' - 4': FILL - Brown, soft, silt, little sand, trace gravel, trace trash.
2	2'-4': Bentonite		
3	2-inch PVC casing		
4	Static Water Level		4' - 14': ABLATION TILL - Tan silt and coarse sand, some to little gravel, trace cobbles.
5			
6			
7			
8			
9			
10	#1 Sandpack		
11			
12			
13	5' - 15': 2-inch PVC		
14	0.010" slotted screen		14' - 16.1': BASAL TILL - Very dense, tan sand, some silt, some gravel, trace cobbles.
15			
16			16.1': Refusal
17			
18			
19			
20			

### GEOLOGIC LOG LEGEND

	SOIL - Dark brown organic soil.
	FILL - Silt, little sand, trace gravel, trace trash.
	ABLATION TILL - Poor to moderately sorted, moderately dense, sandy till.
	BASAL TILL - Poorly, very dense, silty to sandy till.

#### PERCENTAGES USED IN SAMPLE DESCRIPTIONS

Trace = 0-10%   Little = 10-20%  
Some = 20-35%   And = 35-50%

# HYDROGEOLOGIC LOG FOR MONITORING WELL MW-3

## Moultonborough Landfill Moultonborough, New Hampshire

**Project:** Moultonborough Landfill

**Total Depth of Boring:** 16' **Total Depth of Well:** 16'

**Driller:** Eastern Analytical, Inc.

**Depth to Till/Refusal:** 8'/16'

**Geologist:** Jeffrey Marts

**Static Water Level (Below TOC):** 9.54'





**Date Drilled:** September 10, 2013

**Screen Interval (Slot Size):** 6' - 16' (0.010" slotted)

**Drill Method:** Geoprobe / 4.25" ID Augers

DEPTH (feet)	WELL CONSTRUCTION	DRILL LOG	SAMPLE DESCRIPTION
+2	Locking, protective monument		
0			0' - 0.5': Dark brown organic soil.
1	Cement		0.5' - 8': FILL - Black to rusty, sand and silt, some gravel, little ash, glass and metal debris.
2	2.5'-4': Bentonite		
3			
4			
5	2-inch PVC casing		
6			
7	Static Water Level		
8			8' - 16': ABLATION TILL - Grayish tan with rusty mottles, fine to coarse sand, little to some silt, trace to some gravel, trace cobbles.
9			
10	#1 Sandpack		
11			
12			
13	6' - 16': 2-inch PVC		
14	0.010" slotted screen		
15			
16			16': Refusal
17			
18			
19			
20			

## GEOLOGIC LOG LEGEND

	SOIL - Dark brown organic soil.
	FILL - Silt, little sand, trace gravel, trace trash.
	ABLATION TILL - Poor to moderately sorted, moderately dense, sandy till.
	BASAL TILL - Poorly, very dense, silty to sandy till.

### PERCENTAGES USED IN SAMPLE DESCRIPTIONS

Trace = 0-10%   Little = 10-20%  
Some = 20-35%   And = 35-50%

**APPENDIX B**  
**LABORATORY TEST REPORTS**

Ray Korber  
KV Partners LLC  
PO Box 7721  
Gilford, NH 03247



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 124661

Client Identification: Old Moultonborough LF

Date Received: 9/18/2013

Dear Mr. Korber :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at [www.eailabs.com](http://www.eailabs.com) for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

< : "less than" followed by the reporting limit

> : "greater than" followed by the reporting limit

%R : % Recovery


Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

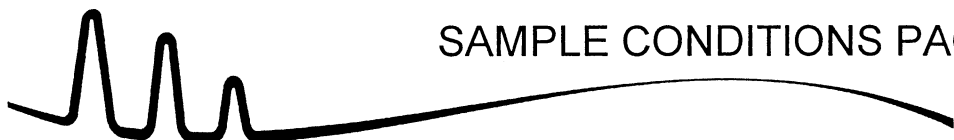
Sincerely,

  
Lorraine Olashaw, Lab Director

10.2.13  
Date

8  
# of pages (excluding cover letter)





# SAMPLE CONDITIONS PAGE

EAI ID#: 124661

Client: KV Partners LLC

Client Designation: Old Moultonborough LF

Temperature upon receipt (°C): 2.3

Received on ice or cold packs (Yes/No): Y

Acceptable temperature range (°C): 0-6

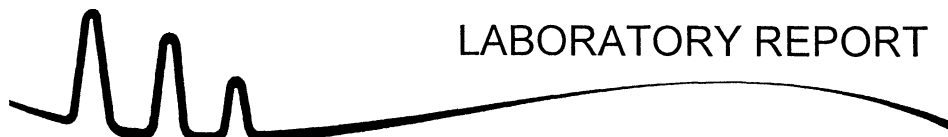
Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
124661.01	MW-1	9/18/13	9/18/13	aqueous		Adheres to Sample Acceptance Policy
124661.02	MW-2	9/18/13	9/18/13	aqueous		Adheres to Sample Acceptance Policy
124661.03	MW-3	9/18/13	9/18/13	aqueous		Adheres to Sample Acceptance Policy
124661.04	Trip Blank	9/18/13	9/11/13	aqueous		Adheres to Sample Acceptance Policy
124661.05	Trip Blank	9/18/13	9/3/13	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis. Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

- 1) EPA 600/4-79-020, 1983
- 2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012
- 3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- 4) Hach Water Analysis Handbook, 2nd edition, 1992



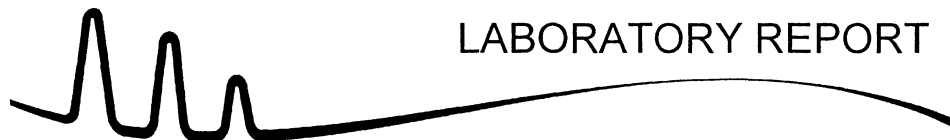
# LABORATORY REPORT

EAI ID#: 124661

Client: KV Partners LLC

Client Designation: Old Moultonborough LF

Sample ID:	MW-1	MW-2	MW-3	Trip Blank
Lab Sample ID:	124661.01	124661.02	124661.03	124661.04
Matrix:	aqueous	aqueous	aqueous	aqueous
Date Sampled:	9/18/13	9/18/13	9/18/13	9/11/13
Date Received:	9/18/13	9/18/13	9/18/13	9/18/13
Units:	ug/l	ug/l	ug/l	ug/l
Date of Analysis:	9/24/13	9/24/13	9/20/13	9/20/13
Analyst:	KJP	KJP	BML	BML
Method:	8260B	8260B	8260B	8260B
Dilution Factor:	1	1	1	1
Dichlorodifluoromethane	< 5	< 5	< 5	< 5
Chloromethane	< 2	< 2	< 2	< 2
Vinyl chloride	< 2	< 2	< 2	< 2
Bromomethane	< 2	< 2	< 2	< 2
Chloroethane	< 5	< 5	< 5	< 5
Trichlorofluoromethane	< 5	< 5	< 5	< 5
Diethyl Ether	< 5	< 5	< 5	< 5
Acetone	< 10	< 10	< 10	< 10
1,1-Dichloroethene	< 1	< 1	< 1	< 1
tert-Butyl Alcohol (TBA)	< 30	< 30	< 30	< 30
Methylene chloride	< 5	< 5	< 5	< 5
Carbon disulfide	< 5	< 5	< 5	< 5
Methyl-t-butyl ether(MTBE)	< 5	< 5	< 5	< 5
Ethyl-t-butyl ether(ETBE)	< 5	< 5	< 5	< 5
Isopropyl ether(DIPE)	< 5	< 5	< 5	< 5
tert-amyl methyl ether(TAME)	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	< 2	< 2	< 2	< 2
1,1-Dichloroethane	< 2	< 2	< 2	< 2
2,2-Dichloropropane	< 2	< 2	< 2	< 2
cis-1,2-Dichloroethene	< 2	< 2	< 2	< 2
2-Butanone(MEK)	< 10	< 10	< 10	< 10
Bromochloromethane	< 2	< 2	< 2	< 2
Tetrahydrofuran(THF)	< 10	< 10	< 10	< 10
Chloroform	< 2	< 2	< 2	< 2
1,1,1-Trichloroethane	< 2	< 2	< 2	< 2
Carbon tetrachloride	< 2	< 2	< 2	< 2
1,1-Dichloropropene	< 2	< 2	< 2	< 2
Benzene	< 1	< 1	< 1	< 1
1,2-Dichloroethane	< 2	< 2	< 2	< 2
Trichloroethene	< 2	< 2	< 2	< 2
1,2-Dichloropropane	< 2	< 2	< 2	< 2
Dibromomethane	< 2	< 2	< 2	< 2
Bromodichloromethane	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dioxane	< 50	< 50	< 50	< 50
4-Methyl-2-pentanone(MIBK)	< 10	< 10	< 10	< 10
cis-1,3-Dichloropropene	< 2	< 2	< 2	< 2
Toluene	< 1	< 1	< 1	< 1
trans-1,3-Dichloropropene	< 2	< 2	< 2	< 2
1,1,2-Trichloroethane	< 2	< 2	< 2	< 2
2-Hexanone	< 10	< 10	< 10	< 10
Tetrachloroethene	< 2	< 2	< 2	< 2
1,3-Dichloropropane	< 2	< 2	< 2	< 2
Dibromochloromethane	< 2	< 2	< 2	< 2
1,2-Dibromoethane(EDB)	< 2	< 2	< 2	< 2
Chlorobenzene	< 2	< 2	< 2	< 2
1,1,1,2-Tetrachloroethane	< 2	< 2	< 2	< 2
Ethylbenzene	< 1	< 1	< 1	< 1

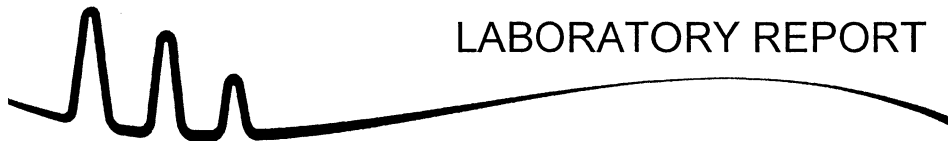


EAI ID#: 124661

Client: KV Partners LLC

Client Designation: Old Moultonborough LF

Sample ID:	MW-1	MW-2	MW-3	Trip Blank
Lab Sample ID:	124661.01	124661.02	124661.03	124661.04
Matrix:	aqueous	aqueous	aqueous	aqueous
Date Sampled:	9/18/13	9/18/13	9/18/13	9/11/13
Date Received:	9/18/13	9/18/13	9/18/13	9/18/13
Units:	ug/l	ug/l	ug/l	ug/l
Date of Analysis:	9/24/13	9/24/13	9/20/13	9/20/13
Analyst:	KJP	KJP	BML	BML
Method:	8260B	8260B	8260B	8260B
Dilution Factor:	1	1	1	1
mp-Xylene	< 1	< 1	< 1	< 1
o-Xylene	< 1	< 1	< 1	< 1
Styrene	< 1	< 1	< 1	< 1
Bromoform	< 2	< 2	< 2	< 2
IsoPropylbenzene	< 1	< 1	< 1	< 1
Bromobenzene	< 2	< 2	< 2	< 2
1,1,2,2-Tetrachloroethane	< 2	< 2	< 2	< 2
1,2,3-Trichloropropane	< 2	< 2	< 2	< 2
n-Propylbenzene	< 1	< 1	< 1	< 1
2-Chlorotoluene	< 2	< 2	< 2	< 2
4-Chlorotoluene	< 2	< 2	< 2	< 2
1,3,5-Trimethylbenzene	< 1	< 1	< 1	< 1
tert-Butylbenzene	< 1	< 1	< 1	< 1
1,2,4-Trimethylbenzene	< 1	< 1	< 1	< 1
sec-Butylbenzene	< 1	< 1	< 1	< 1
1,3-Dichlorobenzene	< 1	< 1	< 1	< 1
p-Isopropyltoluene	< 1	< 1	< 1	< 1
1,4-Dichlorobenzene	< 1	< 1	< 1	< 1
1,2-Dichlorobenzene	< 1	< 1	< 1	< 1
n-Butylbenzene	< 1	< 1	< 1	< 1
1,2-Dibromo-3-chloropropane	< 2	< 2	< 2	< 2
1,3,5-Trichlorobenzene	< 1	< 1	< 1	< 1
1,2,4-Trichlorobenzene	< 1	< 1	< 1	< 1
Hexachlorobutadiene	< 0.5	< 0.5	< 0.5	< 0.5
Naphthalene	< 5	< 5	< 5	< 5
1,2,3-Trichlorobenzene	< 1	< 1	< 1	< 1
4-Bromofluorobenzene (surr)	91 %R	96 %R	100 %R	101 %R
1,2-Dichlorobenzene-d4 (surr)	113 %R	109 %R	110 %R	110 %R
Toluene-d8 (surr)	99 %R	98 %R	100 %R	100 %R



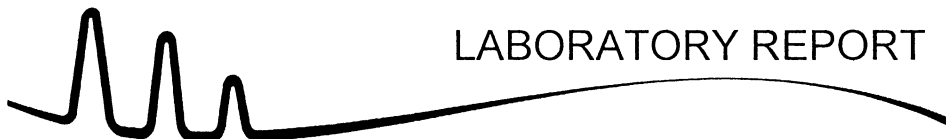
# LABORATORY REPORT

EAI ID#: 124661

Client: KV Partners LLC

Client Designation: Old Moultonborough LF

Sample ID:	MW-1	MW-2	MW-3	Trip Blank
Lab Sample ID:	124661.01	124661.02	124661.03	124661.05
Matrix:	aqueous	aqueous	aqueous	aqueous
Date Sampled:	9/18/13	9/18/13	9/18/13	9/3/13
Date Received:	9/18/13	9/18/13	9/18/13	9/18/13
Units:	ug/l	ug/l	ug/l	ug/l
Date of Analysis:	9/20/13	9/20/13	9/20/13	9/20/13
Analyst:	VG	VG	VG	VG
Method:	8260B SIM	8260B SIM	8260B SIM	8260B SIM
Dilution Factor:	1	1	1	1
1,4-Dioxane	< 0.25	< 0.25	< 0.25	< 0.25
4-Bromofluorobenzene (surr)	101 %R	101 %R	102 %R	86 %R
Toluene-d8 (surr)	93 %R	91 %R	80 %R	77 %R



# LABORATORY REPORT

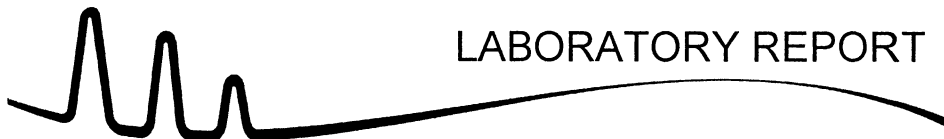
EAI ID#: 124661

Client: KV Partners LLC

Client Designation: Old Moultonborough LF

Sample ID:	MW-1	MW-2	MW-3					
Lab Sample ID:	124661.01	124661.02	124661.03					
Matrix:	aqueous	aqueous	aqueous					
Date Sampled:	9/18/13	9/18/13	9/18/13					
Date Received:	9/18/13	9/18/13	9/18/13					
				Units	Analysis			
					Date	Time	Method	Analyst
Chloride	8	100	340	mg/L	9/19/13	10:33	4500CIE	KD
Nitrate-N	< 0.5	< 0.5	< 0.5	mg/L	9/19/13	9:20	353.2	KD
TKN	< 0.5	3.8	0.8	mg/L	9/26/13	11:40	4500N <sub>org</sub> C/	SEL





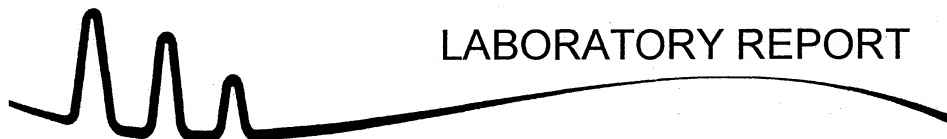
# LABORATORY REPORT

EAI ID#: 124661

Client: **KV Partners LLC**

Client Designation: **Old Moultonborough LF**

Sample ID:	MW-1	MW-2	MW-3						
Lab Sample ID:	124661.01	124661.02	124661.03						
Matrix:	aqueous	aqueous	aqueous						
Date Sampled:	9/18/13	9/18/13	9/18/13						
Date Received:	9/18/13	9/18/13	9/18/13	Analytical Matrix	Units	Date of Analysis	Method	Analyst	
Arsenic	< 0.001	< 0.001	< 0.001	AqDis	mg/L	9/19/13	200.8	DS	
Barium	<b>0.003</b>	<b>0.12</b>	<b>0.10</b>	AqDis	mg/L	9/19/13	200.8	DS	
Cadmium	< 0.001	< 0.001	< 0.001	AqDis	mg/L	9/19/13	200.8	DS	
Chromium	< 0.001	< 0.001	< 0.001	AqDis	mg/L	9/19/13	200.8	DS	
Iron	< 0.05	< 0.05	<b>0.35</b>	AqDis	mg/L	9/19/13	200.8	DS	
Lead	< 0.001	< 0.001	< 0.001	AqDis	mg/L	9/19/13	200.8	DS	
Manganese	<b>0.10</b>	<b>3.3</b>	<b>0.29</b>	AqDis	mg/L	9/19/13	200.8	DS	
Mercury	< 0.0001	< 0.0001	< 0.0001	AqDis	mg/L	9/19/13	200.8	DS	
Selenium	< 0.001	< 0.001	< 0.001	AqDis	mg/L	9/19/13	200.8	DS	
Silver	< 0.001	< 0.001	< 0.001	AqDis	mg/L	9/19/13	200.8	DS	



# LABORATORY REPORT

EAI ID#: **124661**

Client: **KV Partners LLC**

Client Designation: **Old Moultonborough LF**

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Sample ID:	MW-1	MW-2	MW-3
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Lab Sample ID:	124661.01	124661.02	124661.03
----------------	-----------	-----------	-----------

Matrix:	aqueous	aqueous	aqueous
---------	---------	---------	---------

Date Sampled:	9/18/13	9/18/13	9/18/13
---------------	---------	---------	---------

Date Received:	9/18/13	9/18/13	9/18/13
----------------	---------	---------	---------

Static Water Level	<b>6.59</b>	<b>4.95</b>	<b>9.09</b>
Field pH	<b>6.6</b>	<b>6.7</b>	<b>6.6</b>
Field Conductivity	<b>82</b>	<b>890</b>	<b>1400</b>

Units	Date of Analysis	Method	Analyst
ft	9/18/13	Field	JG
SU	9/18/13	SM4500	JG
uS/cm	9/18/13	SM2510	JG

# CHAIN-OF-CUSTODY RECORD

eastern analytical  
professional laboratory services

124661

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SampleID	Date/Time	aMatrix	Parameters	Sample Notes	# of containers
MMW-1	9/18/13	GW	Field Specific Conductivity, Field pH, Chloride, Nitrate, TKN, Dissolved Arsenic, Barium, Cadmium, Chromium, Iron, Lead, Manganese, Mercury, Selenium, Silver, VOCs NH Full List 8260B, 1,4 Dioxane, SWL		7
Preservative: $\text{HCl}$ $\text{HNO}_3$ $\text{H}_2\text{SO}_4$ NaOH MeOH $\text{Na}_2\text{S}_2\text{O}_3$ $\text{CE}$					
MMW-2	9/18/13	GW	Field Specific Conductivity, Field pH, Chloride, Nitrate, TKN, Dissolved Arsenic, Barium, Cadmium, Chromium, Iron, Lead, Manganese, Mercury, Selenium, Silver, VOCs NH Full List 8260B, 1,4 Dioxane, SWL		7
Preservative: $\text{HCl}$ $\text{HNO}_3$ $\text{H}_2\text{SO}_4$ NaOH MeOH $\text{Na}_2\text{S}_2\text{O}_3$ $\text{CE}$					
MMW-3	9/18/13	GW	Field Specific Conductivity, Field pH, Chloride, Nitrate, TKN, Dissolved Arsenic, Barium, Cadmium, Chromium, Iron, Lead, Manganese, Mercury, Selenium, Silver, VOCs NH Full List 8260B, 1,4 Dioxane, SWL		7
Preservative: $\text{HCl}$ $\text{HNO}_3$ $\text{H}_2\text{SO}_4$ NaOH MeOH $\text{Na}_2\text{S}_2\text{O}_3$ $\text{CE}$					

aClientID Old Moultonborough LF  
nProjectID 4273 nYearMonth 2013.09  
Client (Pro Mgr) Ray Korber

Customer KV Partners LLC  
Address PO Box 7721  
City Gifford NH 03247  
Phone 603-513-1909  
Fax 866-587-0507

Results Needed by: Preferred date \_\_\_\_\_  
Notes about project  
Dissolved metals field filtered and preserved with Nitric Acid.

Reporting Options  
☒ HC ☐ NO FAX ☐ EDD Disk  
☐ Fax ☐ No partial FAX ☒ EDD email

PO#

Quote# 10/09/15

Temperature 2.30C

Samples Collected by: J. Gammal

Relinquished by Date/Time

Received by

Relinquished by Date/Time Received by

Ray Korber  
KV Partners LLC  
PO Box 7721  
Gilford, NH 03247



Subject: Laboratory Report

Eastern Analytical, Inc. ID: 125096

Client Identification: Old Moultonborough LF

Date Received: 10/2/2013

Dear Mr. Korber :

Enclosed please find the laboratory report for the above identified project. All analyses were performed in accordance with our QA/QC Program. Unless otherwise stated, holding times, preservation techniques, container types, and sample conditions adhered to EPA Protocol. Samples which were collected by Eastern Analytical, Inc. (EAI) were collected in accordance with approved EPA procedures. Eastern Analytical, Inc. certifies that the enclosed test results meet all requirements of NELAP and other applicable state certifications. Please refer to our website at [www.eailabs.com](http://www.eailabs.com) for a copy of our NELAP certificate and accredited parameters.

The following standard abbreviations and conventions apply to all EAI reports:

Solid samples are reported on a dry weight basis, unless otherwise noted

< : "less than" followed by the reporting limit

> : "greater than" followed by the reporting limit

%R : % Recovery


Eastern Analytical Inc. maintains certification in the following states: Connecticut (PH-0492), Maine (NH005), Massachusetts (M-NH005), New Hampshire/NELAP (1012), Rhode Island (269) and Vermont (VT1012).

The following information is contained within this report: Sample Conditions summary, Analytical Results/Data, Quality Control data (if requested) and copies of the Chain of Custody. This report may not be reproduced except in full, without the the written approval of the laboratory.

If you have any questions regarding the results contained within, please feel free to directly contact me or the chemist(s) who performed the testing in question. Unless otherwise requested, we will dispose of the sample(s) 30 days from the sample receipt date.

We appreciate this opportunity to be of service and look forward to your continued patronage.

Sincerely,

  
Lorraine Olashaw, Lab Director

10-10-13  
Date

8  
# of pages (excluding cover letter)



# SAMPLE CONDITIONS PAGE

EAI ID#: 125096

Client: KV Partners LLC

Client Designation: Old Moultonborough LF

Temperature upon receipt (°C): 2.1

Received on ice or cold packs (Yes/No): Y

Acceptable temperature range (°C): 0-6

Lab ID	Sample ID	Date Received	Date Sampled	Sample Matrix	% Dry Weight	Exceptions/Comments (other than thermal preservation)
125096.01	SW-1	10/2/13	10/2/13	aqueous		Adheres to Sample Acceptance Policy
125096.02	SW-2	10/2/13	10/2/13	aqueous		Adheres to Sample Acceptance Policy
125096.03	Trip Blank - 8260	10/2/13	9/16/13	aqueous		Adheres to Sample Acceptance Policy
125096.04	Trip Blank - 1,4 Dioxane	10/2/13	9/20/13	aqueous		Adheres to Sample Acceptance Policy

Samples were properly preserved and the pH measured when applicable unless otherwise noted. Analysis of solids for pH, Flashpoint, Ignitibility, Paint Filter, Corrosivity, Conductivity and Specific Gravity are reported on an "as received" basis.

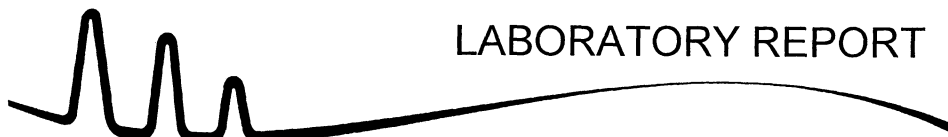
Immediate analyses, pH, Total Residual Chlorine, Dissolved Oxygen and Sulfite, performed at the laboratory were run outside of the recommended 15 minute hold time.

All results contained in this report relate only to the above listed samples.

References include:

- 1) EPA 600/4-79-020, 1983
- 2) Standard Methods for Examination of Water and Wastewater, 20th Edition, 1998 and 22nd Edition, 2012
- 3) Test Methods for Evaluating Solid Waste SW 846 3rd Edition including updates IVA and IVB
- 4) Hach Water Analysis Handbook, 2nd edition, 1992





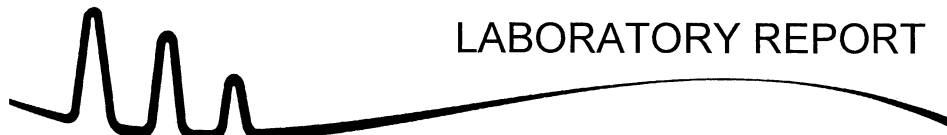
# LABORATORY REPORT

EAI ID#: 125096

Client: **KV Partners LLC**

Client Designation: **Old Moultonborough LF**

Sample ID:	SW-1	SW-2	Trip Blank - 8260
Lab Sample ID:	125096.01	125096.02	125096.03
Matrix:	aqueous	aqueous	aqueous
Date Sampled:	10/2/13	10/2/13	9/16/13
Date Received:	10/2/13	10/2/13	10/2/13
Units:	ug/l	ug/l	ug/l
Date of Analysis:	10/3/13	10/3/13	10/3/13
Analyst:	BML	BML	BML
Method:	8260B	8260B	8260B
Dilution Factor:	1	1	1
Dichlorodifluoromethane	< 5	< 5	< 5
Chloromethane	< 2	< 2	< 2
Vinyl chloride	< 2	< 2	< 2
Bromomethane	< 2	< 2	< 2
Chloroethane	< 5	< 5	< 5
Trichlorofluoromethane	< 5	< 5	< 5
Diethyl Ether	< 5	< 5	< 5
Acetone	< 10	< 10	< 10
1,1-Dichloroethene	< 1	< 1	< 1
tert-Butyl Alcohol (TBA)	< 30	< 30	< 30
Methylene chloride	< 5	< 5	< 5
Carbon disulfide	< 5	< 5	< 5
Methyl-t-butyl ether(MTBE)	< 5	< 5	< 5
Ethyl-t-butyl ether(ETBE)	< 5	< 5	< 5
Isopropyl ether(DIPE)	< 5	< 5	< 5
tert-amyl methyl ether(TAME)	< 5	< 5	< 5
trans-1,2-Dichloroethene	< 2	< 2	< 2
1,1-Dichloroethane	< 2	< 2	< 2
2,2-Dichloropropane	< 2	< 2	< 2
cis-1,2-Dichloroethene	< 2	< 2	< 2
2-Butanone(MEK)	< 10	< 10	< 10
Bromochloromethane	< 2	< 2	< 2
Tetrahydrofuran(THF)	< 10	< 10	< 10
Chloroform	< 2	< 2	< 2
1,1,1-Trichloroethane	< 2	< 2	< 2
Carbon tetrachloride	< 2	< 2	< 2
1,1-Dichloropropene	< 2	< 2	< 2
Benzene	< 1	< 1	< 1
1,2-Dichloroethane	< 2	< 2	< 2
Trichloroethene	< 2	< 2	< 2
1,2-Dichloropropane	< 2	< 2	< 2
Dibromomethane	< 2	< 2	< 2
Bromodichloromethane	< 0.5	< 0.5	< 0.5
1,4-Dioxane	< 50	< 50	< 50
4-Methyl-2-pentanone(MIBK)	< 10	< 10	< 10
cis-1,3-Dichloropropene	< 2	< 2	< 2
Toluene	< 1	< 1	< 1
trans-1,3-Dichloropropene	< 2	< 2	< 2
1,1,2-Trichloroethane	< 2	< 2	< 2
2-Hexanone	< 10	< 10	< 10
Tetrachloroethene	< 2	< 2	< 2
1,3-Dichloropropane	< 2	< 2	< 2
Dibromochloromethane	< 2	< 2	< 2
1,2-Dibromoethane(EDB)	< 2	< 2	< 2
Chlorobenzene	< 2	< 2	< 2
1,1,1,2-Tetrachloroethane	< 2	< 2	< 2
Ethylbenzene	< 1	< 1	< 1



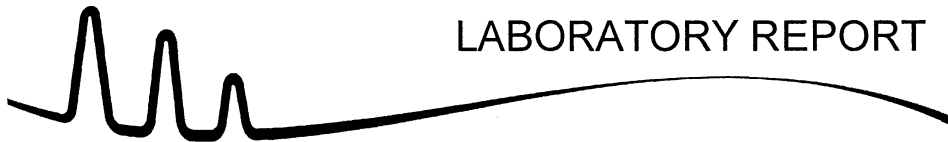
# LABORATORY REPORT

EAI ID#: 125096

Client: KV Partners LLC

Client Designation: Old Moultonborough LF

Sample ID:	SW-1	SW-2	Trip Blank - 8260
Lab Sample ID:	125096.01	125096.02	125096.03
Matrix:	aqueous	aqueous	aqueous
Date Sampled:	10/2/13	10/2/13	9/16/13
Date Received:	10/2/13	10/2/13	10/2/13
Units:	ug/l	ug/l	ug/l
Date of Analysis:	10/3/13	10/3/13	10/3/13
Analyst:	BML	BML	BML
Method:	8260B	8260B	8260B
Dilution Factor:	1	1	1
mp-Xylene	< 1	< 1	< 1
o-Xylene	< 1	< 1	< 1
Styrene	< 1	< 1	< 1
Bromoform	< 2	< 2	< 2
IsoPropylbenzene	< 1	< 1	< 1
Bromobenzene	< 2	< 2	< 2
1,1,2,2-Tetrachloroethane	< 2	< 2	< 2
1,2,3-Trichloropropane	< 2	< 2	< 2
n-Propylbenzene	< 1	< 1	< 1
2-Chlorotoluene	< 2	< 2	< 2
4-Chlorotoluene	< 2	< 2	< 2
1,3,5-Trimethylbenzene	< 1	< 1	< 1
tert-Butylbenzene	< 1	< 1	< 1
1,2,4-Trimethylbenzene	< 1	< 1	< 1
sec-Butylbenzene	< 1	< 1	< 1
1,3-Dichlorobenzene	< 1	< 1	< 1
p-Isopropyltoluene	< 1	< 1	< 1
1,4-Dichlorobenzene	< 1	< 1	< 1
1,2-Dichlorobenzene	< 1	< 1	< 1
n-Butylbenzene	< 1	< 1	< 1
1,2-Dibromo-3-chloropropane	< 2	< 2	< 2
1,3,5-Trichlorobenzene	< 1	< 1	< 1
1,2,4-Trichlorobenzene	< 1	< 1	< 1
Hexachlorobutadiene	< 0.5	< 0.5	< 0.5
Naphthalene	< 5	< 5	< 5
1,2,3-Trichlorobenzene	< 1	< 1	< 1
4-Bromofluorobenzene (surr)	98 %R	100 %R	99 %R
1,2-Dichlorobenzene-d4 (surr)	104 %R	104 %R	104 %R
Toluene-d8 (surr)	99 %R	99 %R	100 %R



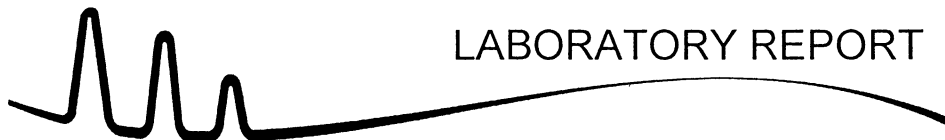
# LABORATORY REPORT

EAI ID#: 125096

Client: KV Partners LLC

Client Designation: Old Moultonborough LF

Sample ID:	SW-1	SW-2	Trip Blank - 1,4 Dioxane
Lab Sample ID:	125096.01	125096.02	125096.04
Matrix:	aqueous	aqueous	aqueous
Date Sampled:	10/2/13	10/2/13	9/20/13
Date Received:	10/2/13	10/2/13	10/2/13
Units:	ug/l	ug/l	ug/l
Date of Analysis:	10/8/13	10/8/13	10/8/13
Analyst:	VG	VG	VG
Method:	8260B SIM	8260B SIM	8260B SIM
Dilution Factor:	1	1	1
1,4-Dioxane	< 0.25	< 0.25	< 0.25
4-Bromofluorobenzene (surr)	103 %R	104 %R	103 %R
Toluene-d8 (surr)	100 %R	100 %R	99 %R



# LABORATORY REPORT

EAI ID#: 125096

Client: KV Partners LLC

Client Designation: Old Moultonborough LF

Sample ID: SW-1 SW-2

Lab Sample ID: 125096.01 125096.02

Matrix: aqueous aqueous

Date Sampled: 10/2/13 10/2/13

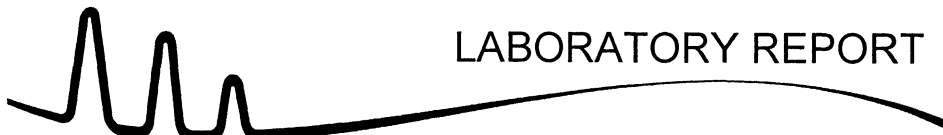
Date Received: 10/2/13 10/2/13

Chloride 11 12

Nitrate-N < 0.5 < 0.5

TKN 0.8 < 0.5

Analysis				
Units	Date	Time	Method	Analyst
mg/L	10/03/13	10:22	4500CIE	KD
mg/L	10/03/13	10:22	353.2	KD
mg/L	10/09/13	10:16	4500N <sub>org</sub> C/	SEL



# LABORATORY REPORT

EAI ID#: 125096

Client: KV Partners LLC

Client Designation: Old Moultonborough LF

Sample ID: SW-1 SW-2

Lab Sample ID: 125096.01 125096.02

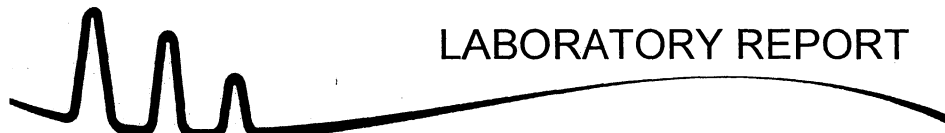
Matrix: aqueous aqueous

Date Sampled: 10/2/13 10/2/13

Date Received: 10/2/13 10/2/13

Arsenic	< 0.001	< 0.001
Barium	0.006	0.007
Cadmium	< 0.001	< 0.001
Chromium	< 0.001	< 0.001
Iron	0.27	0.28
Lead	0.002	0.011
Manganese	0.034	0.029
Mercury	< 0.0001	< 0.0001
Selenium	< 0.001	< 0.001
Silver	< 0.001	< 0.001

Analytical Matrix	Units	Date of Analysis	Method	Analyst
AqTot	mg/L	10/4/13	200.8	DS
AqTot	mg/L	10/4/13	200.8	DS
AqTot	mg/L	10/4/13	200.8	DS
AqTot	mg/L	10/4/13	200.8	DS
AqTot	mg/L	10/4/13	200.8	DS
AqTot	mg/L	10/4/13	200.8	DS
AqTot	mg/L	10/4/13	200.8	DS
AqTot	mg/L	10/4/13	200.8	DS
AqTot	mg/L	10/4/13	200.8	DS
AqTot	mg/L	10/4/13	200.8	DS



# LABORATORY REPORT

EAI ID#: 125096

Client: KV Partners LLC

Client Designation: Old Moultonborough LF

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Sample ID:	SW-1	SW-2
------------	------	------

Lab Sample ID:	125096.01	125096.02
----------------	-----------	-----------

Matrix:	aqueous	aqueous
---------	---------	---------

Date Sampled:	10/2/13	10/2/13
---------------	---------	---------

Date Received:	10/2/13	10/2/13
----------------	---------	---------

Field pH	6.5	6.5
----------	-----	-----

Field Conductivity	75	79
--------------------	----	----

Units	Date of Analysis	Method	Analyst
SU	10/2/13	SM4500	JG
uS/cm	10/2/13	SM2510	JG

# CHAIN-OF-CUSTODY RECORD

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125096 ∞

aSampleID	Date/Time	aMatrix	Parameters	Sample Notes	# of containers
SW-1	10/2/13 13:38	SW	Field Specific Conductivity, Field pH, Chloride, Nitrate, TKN, Total Arsenic, Barium, Cadmium, Chromium, Iron, Lead, Manganese, Mercury, Selenium, Silver, VOCs NH Full List 8260B, 1,4 Dioxane		7
preservative: <del>HCl</del> <del>HNO<sub>3</sub></del> <del>H<sub>2</sub>SO<sub>4</sub></del> NaOH MEOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> <del>ICE</del>					
SW-2	10/2/13 13:12	SW	Field Specific Conductivity, Field pH, Chloride, Nitrate, TKN, Total Arsenic, Barium, Cadmium, Chromium, Iron, Lead, Manganese, Mercury, Selenium, Silver, VOCs NH Full List 8260B, 1,4 Dioxane		7
preservative: <del>HCl</del> <del>HNO<sub>3</sub></del> <del>H<sub>2</sub>SO<sub>4</sub></del> NaOH MEOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> <del>ICE</del>					

aClientID	Old Moultonborough LF	Results Needed by: Preferred date	
nProjectID	4273	nYearMonth	2013.10
Client (Pro Mgr) Ray Korber		Notes about project	
Customer	KV Partners LLC		
Address	PO Box 7721		
City	Gilford	NH	03247
Phone	603-513-1909		
Fax	866-587-0507		

<b>Reporting Options</b> <input checked="" type="checkbox"/> HC <input type="checkbox"/> NO FAX <input type="checkbox"/> Fax <input type="checkbox"/> No partial FAX <input checked="" type="checkbox"/> EDD Disk <input checked="" type="checkbox"/> EDD email	<b>PO#</b> _____ <b>Quote#</b> 1010915 <b>Temperature</b> 2.1 °C
<b>Samples Collected by:</b> J. Gagne <b>Relinquished by:</b> [Signature] <b>Date/Time</b> 10/2/13 1630	<b>Received by:</b> [Signature] <b>Date/Time</b> _____